

HOUSATONIC RIVER FLOOD CONTROL

NORTHFIELD BROOK DAM & RESERVOIR

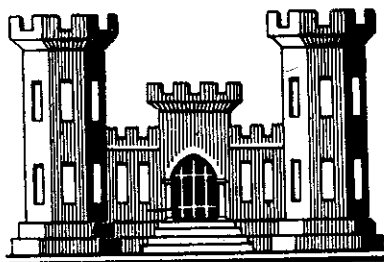
NORTHFIELD BROOK

(LOWER NAUGATUCK RIVER, BELOW THOMASTON)

CONNECTICUT

DESIGN MEMORANDUM NO. 4

RELOCATIONS



U.S. Army Engineer Division, New England
Corps of Engineers Waltham, Mass.

APRIL 1962

TC423

.N43N874 Northfield Brook Dam and Reservoir,
1962a Northfield Brook (Lower Naugatuck
River below Thomaston), Connecticut:
design memorandum no. 4: relocations.
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TC423

.N43N874 Northfield Brook Dam and Reservoir,
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... 1962. (Card 2)
1. Flood control--Connecticut--
Northfield Brook. 2. Flood dams and
reservoirs--Connecticut--Northfield
Brook. 3. Northfield Brook Dam (Conn.)
--Flood control. 4. Northfield Brook
Reservoir (Conn.)--Flood control.
5. Naugatuck River watershed (Conn.)--
Flood control. 6. Housatonic River
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U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM 54, MASS.

30 April 1962

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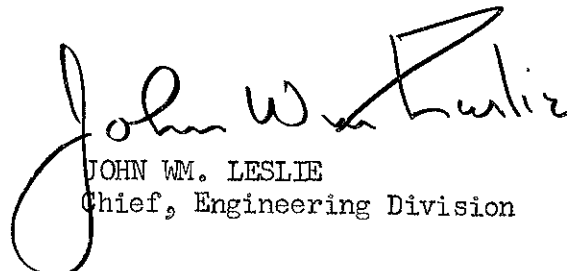
SUBJECT: Northfield Brook Dam and Reservoir - Northfield Brook -
Housatonic River Basin, Connecticut - Design Memorandum
No. 4 - Relocations

TO: Chief of Engineers
ATTN: ENGCW-E
Department of the Army
Washington, D. C.

There is submitted for review and approval Design Memorandum
No. 4 - Relocations for the Northfield Dam and Reservoir -
Northfield Brook - Housatonic River Basin, Connecticut, in
accordance with EM 1110-2-1150.

FOR THE DIVISION ENGINEER:

1 Incl. (10 cys)
Design Memo No. 4


JOHN WM. LESLIE
Chief, Engineering Division

FLOOD CONTROL PROJECT
NORTHFIELD BROOK DAM AND RESERVOIR

NORTHFIELD BROOK

HOUSATONIC RIVER BASIN
CONNECTICUT

DESIGN MEMORANDA INDEX

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2	Site Geology	12 Apr 1962	
3	General Design		
4	Relocations	30 Apr 1962	
5	Concrete Materials	21 Nov 1961	7 Dec 1961
6	Real Estate		
7	Embankments and Foundation		
8	Detailed Design of Structures		
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NORTHFIELD BROOK DAM AND RESERVOIR
NORTHFIELD BROOK
HOUSATONIC RIVER BASIN
CONNECTICUT

DESIGN MEMORANDUM NO. 4

RELOCATIONS

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U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM 54, MASS.

NORTHFIELD BROOK DAM AND RESERVOIR

NORTHFIELD BROOK

HOUSATONIC RIVER BASIN
CONNECTICUT

DESIGN MEMORANDUM NO. 4

RELOCATIONS

APRIL 1962

A. SCOPE

1. Scope. - This Design Memorandum describes existing highways and utilities in the Northfield Brook Reservoir which will be maintained, abandoned, relocated or protected. It presents plans, data and cost estimates for contemplated modifications or relocations of facilities. An Attorney's Report is appended. This memorandum is intended to serve as a basis for negotiation of relocation agreements with the owners.

B. LOCATION AND DESCRIPTION
OF PROJECT

2. Reservoir. - The Northfield Brook Reservoir Project is located within the Towns of Thomaston and Litchfield. The reservoir is formed by a dam located on Northfield Brook about 1.3 miles above its confluence with the Naugatuck River and a spillway located in the east abutment. The reservoir extends up Northfield Brook about 1.5 miles. The outline of the reservoir and location of structures are shown on Plate No. 4-1. The real estate Guide Control Line has been established at elevation 580 feet, m.s.l., 4 feet above the spillway crest elevation of 576 feet, m.s.l.

3. Structures. - The dam will be constructed of rolled fill embankment with the slopes protected by rock placed on gravel bedding. The dam will be 810 feet in length, a maximum height of 118 feet, a top elevation of 591 feet, m.s.l., and a top width of 20 feet. The overflow chute spillway located adjacent to the dam in the east abutment will have a crest length of 72 feet and a crest elevation of 576 feet, m.s.l. The outlet works will be located west of the brook under the dam and it will be an uncontrolled type. The conduit consists of a 3-foot diameter precast reinforced concrete pipe with a total length including transition of 587 feet. A concrete structure

will be provided upstream of the conduit intake to control the permanent pool which will have an elevation of 500 feet, m.s.l.

C. HIGHWAY RELOCATIONS

4. General. - One State Highway, Road No. 854, also called Litchfield Road, and a short section of a local road known as Knife Shop Road, in the Towns of Thomaston and Litchfield, Connecticut are located within the reservoir area. State Highway 854 will be relocated. A short section of Knife Shop Road will be abandoned and a connection to relocated State Highway 854 will be constructed. The relocated road will have a minimum profile grade of elevation 580.0, which is 4 feet above spillway crest elevation and approximately 9 feet above a recurrence of the August 1955 maximum flood of record, with Northfield Brook Dam being in operation.

Flowage easements will be obtained for all embankments in the reservoir area below the Guide Taking Line, elevation 580.0.

A turnaround will be constructed on Litchfield Road below the dam to permit snow removal, maintenance equipment, fire apparatus and school buses to reverse direction.

5. Identification. - Each road or section of road within or adjacent to the reservoir area, where some modification will be required, is identified by a number which is shown on Plate No. 4-2 and corresponds to the description in this memorandum bearing the same identification number.

6. Traffic Counts. - The Connecticut State Highway Department made traffic counts on Litchfield Road in 1960 and on Knife Shop Road in 1961. There has been no material change in the traffic pattern since these counts were taken and they are considered to be representative of present traffic volumes. This data is shown in the pertinent paragraphs of this memorandum.

7. Relocation Agreement - Type of Contract. - Officials of the Connecticut State Highway Department have advised that they will acquire all land required, perform all engineering services, award and supervise the construction contract for Litchfield Road relocation under a cost reimbursable contract. The relocation of a section at Knife Shop Road will also be accomplished by the Connecticut State Highway Department as agent for the Town of Litchfield, in accordance with the request of Officials in that Town, under a cost reimbursable contract.

8. State Highway - Road No. 854. - Litchfield Road, designated as Road No. 854, is a State Highway but is not a part of the numbered route system. This road leads northwesterly from Route 8 in the Town of Thomaston to Route 116 in the Town of Litchfield, passing through the Village of Northfield.

The average daily traffic volume, based on traffic counts taken by the Connecticut State Highway Department in 1960 is 950 vehicles.

The section of this road within the reservoir area was reconstructed in 1957 with a 24' bituminous concrete pavement over broken stone base and 8' bituminous macadam shoulders on each side.

There are three bridges on this road within the reservoir area, each crossing Northfield Brook. All of these bridges are in excellent condition. Pertinent data on each, is as follows:-

First bridge above dam site.

Type - Concrete beam and slab.
Skew Span 27.5' (25°), Square span 25'.
Deck Elev. 493.1, Stream bed Elev. 482.
Effective waterway opening 200 sq. feet.
Bridge widened in 1957.

Second bridge above dam site.

Type - Concrete beam and slab.
Skew span 43.5' (45°), Square span 31'.
Deck Elev. 522.9, Stream bed Elev. 513.
Effective waterway opening 186 sq. feet.
Bridge widened in 1957.

Third bridge above dam site.

Type - Steel stringer with concrete deck.
Skew span 29.3' (35°), Square span 24'.
Deck Elev. 568.8, Stream bed Elev. 558.
Effective waterway opening 192 sq. feet.
Bridge constructed new in 1957.

These bridges will be left in place for use as access to the reservoir area for maintenance and fire protection upon completion of the dam.

A reinforced concrete box culvert 8' wide x 6' high carries a brook beneath the highway near the upper reaches of the reservoir. This culvert was constructed in 1957, when the State Highway was reconstructed, and will be left in place.

At the time this State Highway was reconstructed in 1957, a section about 2000' in length, - 600' in Thomaston and 1400' in Litchfield, was relocated to the west on higher ground. Use of the old section of highway has been discontinued except for a short connector to Knife Shop Road, which was reconstructed on a slightly different alignment. The discontinued section includes a bridge at the extreme upper end of the reservoir. This reinforced concrete bridge, which was built in 1940, is in very good condition. It has a skew span (45°) of 30', square span of 21 feet and clear height above stream bed of 6', giving an effective waterway opening of 126 square feet.

The deck is approximately elevation 585, with a clear width of roadway between curbs of 23'. This section of old State Highway and bridge, about 2000' in length, as shown on Plate No. 4-2, Identification No. 1, will be abandoned.

A stretch of State Highway No. 854, extending from the dam site northerly a distance of about 6000', as shown on Plate No. 4-2, Identification No. 2, is below the Guide Taking Line and will be abandoned as a State Highway but will be retained for use by operating personnel for maintenance and fire protection purposes.

A replacement road, about 9000' in length, as shown on Plate No. 4-2, Identification No. 3 will be constructed on the westerly side of the reservoir as a "replacement-in-kind". This road will also serve as an access road to the dam. A steel stringer bridge with reinforced concrete deck will be constructed on a skew downstream from the dam across Northfield Brook. This bridge will have a roadway width of 34' between curbs and safety walks on each side, in conformance with published design standards of the Connecticut State Highway Department for an ADT volume of 950 vehicles. The bridge will span the present channel without encroachment, which will provide an effective waterway opening more than adequate to pass the discharge from the standard project flood.

A turnaround will be constructed on the present highway below the dam, as shown on Plate No. 4-2, Identification No. 4, to permit fire apparatus, school buses, snow removal and maintenance equipment serving residences below the dam, to reverse direction.

Photogrammetric maps were studied and cost estimates prepared to determine the most economical location for the relocated highway. It was determined that relocation on the east side of the reservoir would cost substantially more than on the west side because of the increased length, increased amount of rock excavation and the necessity of taking at least two residences below the dam.

9. Local Roads - Knife Shop Road. - Knife Shop Road in the Town of Litchfield, Connecticut serves a few local residents and is also used as a short cut to State Highway 854 by some residents in the southerly part of the Town. Traffic counts made by the Connecticut State Highway Department in 1961 show an ADT volume of 100 vehicles.

The bituminous treated roadway surface is 16'-18' wide and maintained in good condition. There are no shoulders. A section about 100' in length at the Litchfield-Thomaston Town Line, as shown on Plate No. 4-2, Identification No. 5, is below the Guide Taking Line and will be abandoned.

Selectmen of the Town of Litchfield were requested to consider dead-ending Knife Shop Road at the edge of the reservoir with a turnaround to be constructed at this location. They considered this matter and finally decided to hold an open meeting with residents of the Northfield section of the town to consider this problem. The fifty persons present at this meeting voted unanimously to request the Government to construct a connecting road from Knife Shop Road to relocated State Highway 854. It is proposed to construct a connecting road with 18-foot bituminous treated gravel surface and 4-foot shoulders, with a bridge over Northfield Brook, to connect Knife Shop Road with State Highway 854, as shown on Plate No. 4-2, Identification No. 6. This road will also serve as a connector between the new State Highway relocation and the old State Highway, which will be left in place to serve as access to the permanent pool and recreation area. The abandoned State Highway Bridge cannot be used for this connecting road because of its position with respect to Knife Shop Road and relocated State Highway 854 and the great difference in grades of the connecting roads. A steel stringer bridge with concrete deck and span of 25', giving a clear waterway opening of 350 square feet, sufficient to pass the August 1955 flood of record, will be constructed.

10. Mail and School Bus Routes. - Mail is delivered by rural free delivery on State Highway 854, Litchfield Road, from Thomaston. The school bus transports children from Litchfield Road to central schools in Thomaston. As the only dwelling in the reservoir area will be acquired, these services will be terminated at the turnaround to be constructed below the dam.

Mail is delivered by rural free delivery from Litchfield to residences on Knife Shop Road. School children living on Knife Shop Road are transported by school bus to central schools in Litchfield. The abandonment of a short section of Knife Shop Road at the Litchfield-Thomaston Town Line will not affect either of these services.

11. Cost Estimates. - The estimated cost of relocating State Highway 854 was computed from layouts on current photogrammetric maps scale 1"=200' and contour interval of 10', as follows:

<u>Highway</u>	<u>Length</u>	<u>Est. Construction Cost</u>
State Highway #854 (Litchfield Road)	9000'	\$635,000

This estimate was based on average unit prices which have been bid on similar types of projects in the State of Connecticut during 1961 and include 15% for contingencies and \$10,000 for land. Detailed cost estimate is shown in Table 1.

12. Allocation of Costs. - The cost of all highway relocations and modifications as described herein will be borne by the Government.

13. Attitude of Local Officials. - The plans for proposed highway relocations and modifications, as described herein, have been presented and discussed with officials of the Connecticut Department of Public Works and Selectmen of the Towns of Litchfield and Thomaston, Connecticut. These authorities have indicated informally that they are in agreement with the proposed plans.

D. UTILITY RELOCATIONS

14. Utility Relocations. - Relocations and abandonments outlined below will be accomplished by the owners under relocation agreements and will be coordinated with other work in the reservoir area. See Plate No. 4-3.

15. Hartford Electric Light Company. -

a. Distribution Facilities. - The Hartford Electric Light Company owns a 4.8 kv primary line along Litchfield Road together with facilities for serving customers in the reservoir area. The primary line and customers services from a point 800 feet south of the dam centerline to the end of the line in the reservoir area will be abandoned. The approximate length of this abandoned line is 4000 feet; the estimated cost to the Government is \$2000.

b. Transmission Line. - The Hartford Electric Light Company owns a double circuit 69 kv transmission line on steel towers located on a 100-foot right-of-way in the reservoir area. Each circuit uses No. 2 copper conductors. Three towers will be raised to provide proper conductor clearances. The estimated cost to the Government is \$90,000.

16. Southern New England Telephone Company. - The Southern New England Telephone Company owns a 6 pair 19 gauge exchange line on Hartford Electric Light Company poles along Litchfield Road together with facilities for serving customers. The cable and customer services from a point 800 feet south of the dam centerline to the end of the line will be abandoned. The approximate length of this abandoned line is 4000 feet. The estimated cost to the Government is \$200.00.

TABLE IDETAILED COST ESTIMATES

Litchfield Road Relocation and
Connector to Knife Shop Road

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
Clearing & Grubbing	15.4	Acres	\$500.00	\$ 7,700
Earth Excavation	47,970	C.Y.	0.70	33,579
Rock Excavation	94,800	C.Y.	1.75	165,900
Trench Excavation-Rock	1,900	C.Y.	4.50	8,550
Ordinary Borrow	39,400	C.Y.	0.70	27,580
Gravel Borrow	3,910	C.Y.	1.40	5,474
Gravel Sub-Base	18,410	C.Y.	1.10	20,251
Formation of Subgrade	42,270	S.Y.	0.20	8,454
Shaping & Cleaning Slopes	9,600	Lin. Ft.	1.00	9,600
Broken Stone for Base	3,600	Tons	3.50	12,600
Broken Stone for Macadam Base	3,600	Tons	4.00	14,400
Broken Stone for Macadam Pavement	2,000	Tons	4.00	8,000
Asphalt Concrete	3,150	Tons	8.00	25,200
Bituminous Material	80,700	Gal.	0.20	16,140
Paved Ditch	1,650	S.Y.	4.00	6,600
Guard Rail	9,200	Lin. Ft.	2.00	18,400
Guard Rail Anchors	46	Each	50.00	2,300

<u>Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
Perforated Sub-Drain	7,600	Lin. Ft.	\$ 4.00	\$ 30,400
Mulching	55,050	S.Y.	0.10	5,505
Seeding	55,050	S.Y.	0.05	2,753
Large Culverts (3)		L.S.		13,500
Minor Drainage	1.7	Miles	15,000.00	25,500
Turnarounds	1	Each	350.00	350
Bridge Sta. 15+00		L.S.		50,000
Bridge Sta. 93+50		L.S.		<u>31,200</u>
		Sub-Total		\$549,936
		Miscellaneous Items and Contingencies		<u>75,064</u>
				\$625,000
		Lands & Damages		<u>10,000</u>
		Total		\$635,000
Utility Relocations				\$ 92,200

APPENDIX "A"

Attorney's Report

Re: Northfield Brook Dam and Reservoir Project, Connecticut -
Roads and Utilities.

1. Public Law 86-645, 86th Congress, 2nd Session, approved 14 July 1960, provided for a Flood Control Dam and Reservoir on Northfield Brook in the Towns of Thomaston and Litchfield, Litchfield County, State of Connecticut. This project is authorized substantially in accordance with the recommendations of the Chief of Engineers in House Document No. 372, 86th Congress, 2nd Session, at a then estimated cost of \$1,620,000.00.

2. Within the proposed dam and reservoir area, there is one State highway and one Town road, telephone exchange lines and electric transmission and distribution lines which will interfere with the construction, operation and maintenance of the Northfield Brook Dam and Reservoir Project. There are no railroads, water, municipal buildings, and/or sewerage facilities within the proposed project area. Therefore, the relocation, rearrangement, alteration and/or abandonment of the above-mentioned roads and utilities will be required.

I HIGHWAYS.

3. The law relating to highways is found in the General Statutes of Connecticut Revision of 1958, the applicable sections being:

Title 13

Highways and Bridges

CHAPTER 231

Highways and Bridges

Sec. 13-3. Acceptance of highways by municipalities. Any municipality whose duty it is to maintain the highways within its limits may, except as otherwise provided in its charter, at any annual or special meeting held for that purpose, accept as a public highway any street or highway situated in such municipality.

Sec. 13-22. Layout of highways by selectmen. The selectmen of each town may lay out necessary highways therein, not being

within a city or within a borough having, by virtue of its charter or by the provisions of this chapter, control of and liability for the highways within its limits, first giving reasonable notice in writing to the owners of the land through which the same are to be laid out, or leaving copies of such notice at their places of abode, if in this state, to be present at the laying out of any such highway; and the damage done to such owners by such laying out shall be paid by the town. A written survey, signed by the selectmen, particularly describing such highway, with a description of each piece or parcel of land taken from or annexed to the lands of adjoining proprietors, being accepted by the town and recorded in its land records, and satisfaction being made to the persons injured, or the money deposited in the town treasury for their use, according to the agreement or estimate made as hereinafter provided, such highway shall be and remain for the use for which it was laid out; but no highway, laid out by the selectmen over the land of any person who declares himself aggrieved by the laying out of the same, shall be opened or occupied within twelve months after the acceptance of such survey.

Sec. 13-31. Discontinuance of highways and private ways. The selectmen of any town may, subject to approval by a majority vote at any regular or special town meeting, by a writing signed by them, discontinue any highway or private way, or land dedicated as such, therein, except when laid out by a court or the general assembly, and except where such highway is within a city, or within a borough having control of highways within its limits. Any person aggrieved may be relieved by application to the court of common pleas, to be made and proceeded with in the manner prescribed in Section 13-23. Whenever a petition has been presented to the selectmen for such discontinuance of any land dedicated as a highway or private way but which has not been actually used, worked or accepted, as a highway, by the town, and such discontinuance has not been made by the selectmen and approved by the town within twelve months after such presentation, any person aggrieved may be relieved by application to the court of common pleas to be made and proceeded with in the manner prescribed in Section 13-23.

CHAPTER 234

State Highways and Bridges

Part I

General Provisions

Sec. 13-67. Appointment of highway commissioner. Records. The highway commissioner shall be appointed as provided by

Sections 4-5 to 4-8, inclusive. The commissioner shall keep a record of all proceedings and orders pertaining to the matters under his direction and copies of all plans, specifications and estimates submitted to him. The commissioner shall furnish without charge certified copies of any document or record pertaining to his department to any court in this state, and any certified document or record of the commissioner, attested as a true copy by the commissioner, deputy commissioner or chief clerk, shall be competent evidence in any court of this state of the facts therein contained.

Sec. 13-79. Altering of highways; entry upon private property. The highway commissioner may lay out, alter, construct or reconstruct, maintain or repair, widen or grade any highway whenever, in his judgment, the interest of the state so requires. Said commissioner or his agent may enter upon private property for the purpose of surveying or examining such property for the location or relocation of any highway, or for the determination of the boundary line of any highway under his control. He shall be liable to the owner of any property for any damage he causes such owner.

Sec. 13-82. Jurisdiction over highways. Said commissioner, except as provided in Section 14-162, shall exercise exclusive jurisdiction over all highways laid out, constructed, reconstructed or maintained by him, and shall have the same powers relating to the trunk line and state aid system of highways as are given to the selectmen of towns, the mayor and common council of any city and the warden and burgesses of any borough.

PART II

State Aid and Trunk Line

Sec. 13-103. Highway commissioner may accept certain roads. When any road which connects with any trunk line highway or with any state aid road has been constructed by any town in such manner that the highway commissioner finds it for the interest of the state to accept the same as a state aid road, he may, with the approval in writing of the selectmen of such town, accept the same as a state aid road, and such road shall thereafter be maintained as a state aid road and shall be subject to all the provisions of the statutes concerning state aid roads, subject to such qualifications as may be provided in the highway commissioner's acceptance of such road; provided the town in which such highway is located shall have provided such rights of way and easements for

drainage purposes as may be required. As used in this section, "town" means a town, a consolidated town and city, a consolidated town and borough or any other municipal or quasi-municipal corporation or subdivision.

Sec. 13-104. Commissioner may take land. In any reconstruction or relocation of any state aid highway or any part thereof, the highway commissioner, on his own initiative, may take any land required for such reconstruction or relocation under the provisions of Sections 13-107, 13-145, 13-146 and 13-149 and all expenses incident to such taking shall be paid by the state. The owner of any land taken for such reconstruction or relocation may exercise the same rights as are provided in Section 13-150.

Sec. 13-105. Purchase and sale of land by commissioner. The highway commissioner is authorized to purchase any land and to take a deed thereof in the name of the state when such land is needed in connection with the layout, construction, repair or maintenance of any trunk line highway or bridge, or in connection with the reconstruction, repair or maintenance of any state aid highway, and any land or buildings or both, necessary, in his opinion, for the efficient accomplishment of the foregoing purpose, provided any purchase of such land or land and buildings in an amount in excess of the sum of three thousand dollars shall be approved by a state referee, or, with the advice and consent of the attorney general, to settle and compromise any claim by any person, firm or corporation claiming to be aggrieved by such layout, construction, reconstruction, repair or maintenance by the payment of money, the transfer of other land acquired for or in connection with highway purposes, or otherwise. The highway commissioner, with the advice and consent of the commissioner of finance and control, may sell, lease and convey, in the name of the state, or otherwise dispose of, or enter into agreements concerning, any land and buildings owned by the state and obtained for or in connection with highway purposes or for the efficient accomplishment of the foregoing purposes or formerly used for highway purposes, which land and buildings are not necessary for such purposes.

Sec. 13-109. Map of trunk line system. The highway commissioner shall prepare a map showing the trunk line highway system as established by law, and shall publicly display such map in his office.

Sec. 13-111. Relocation. The highway commissioner may relocate any section of any state aid or trunk line highway for the

purpose of straightening or removing any dangerous location, and may, with the consent of the town, abandon any part of any state aid or trunk line highway no longer needed upon notice to the board of selectmen of the town wherein any such section of highway is located, and such section of highway shall revert to the town unless legally abandoned by it. Before abandonment of any part of any state aid or trunk line highway, the highway commissioner shall put the same in reasonably good condition.

Sec. 13-112. Layout of trunk line highway. The highway commissioner is authorized to lay out any road as a trunk line either by using existing highways or by acquiring by purchase or condemnation new rights of way. The layout shall be made in the following manner: The highway commissioner shall develop a map or maps of the layout of a trunk line highway by ground survey or aerial photogrammetric methods. Such map or maps shall show the limits of the right of way, all existing roads, buildings, fences and other topographic features which will clearly establish the location of the highway. The highway commissioner shall file in the town clerk's office in each town in which such layout or portion thereof is established a map showing such portions of such layout within the limits of any such town in which such map is filed. When such maps of any section or sections of such highway have been so filed, the highway commissioner shall cause a notice to be inserted in a newspaper having a general circulation within each of such towns describing the action of the commissioner concerning the layout of such highway. When such maps have been placed on file and such notice given, such portion or section shall be deemed to have been legally laid out as a trunk line highway and all provisions of the statutes relating to trunk line highways shall apply to such layout or highway. This section shall not affect the authority of the highway commissioner to relocate any section of any state aid or trunk line highway as provided in Section 13-111.

Sec. 13-119. Closing highways and bridges. The highway commissioner may close or restrict traffic over any section of any trunk line or state aid highway or bridge for the purpose of construction, reconstruction or repair by posting notices at each end of such section of highway or at each end of such bridge and any person using such highway when such notices are so posted shall do so at his own risk. Any person who, without a permit from the highway commissioner, closes any trunk line highway or bridge, or any state aid highway or bridge, shall be fined not more than one hundred dollars.

Sec. 13-141. Acceptance of terms of United States act. This state having assented to the provisions of the act of the Congress approved July 11, 1916, entitled "An Act to Provide that the United States shall aid the States in the construction of rural post roads, and for other purposes," the highway commissioner is authorized to set aside, from time to time, from any sums appropriated for the improvement of trunk line highways in the state, a sufficient sum to make available to this state the amounts apportioned to it for the construction and maintenance of highways under the provisions of this section to enable the state to carry out the provisions of said act.

Sec. 13-145. Taking of land for highway purposes. The highway commissioner may take any land he finds necessary for the layout, alteration, extension, widening, change of grade or improvement of any trunk line highway and the owner of such land shall be paid by the state for all damages and the state shall receive from such owner the amount or value of all benefits resulting from such taking, layout, alteration, extension, widening, change of grade or other improvement. The assessment of such damages and of such benefits shall be made by the highway commissioner and filed by him with the clerk of the superior court in the county in which the land affected is located, and such clerk shall give notice of such assessment to each owner of land affected thereby by mailing to each a copy of the same, postage prepaid, and, at any time after such assessment has been made by said highway commissioner, the physical construction of such layout, alteration, extension, widening, change of grade or other improvement may be made.

4. State Highway: There is one State of Connecticut highway within the proposed Northfield Brook Dam and Reservoir area. The Northfield-Litchfield Road designated by the State Highway Department as State Highway No. 854 now crosses the proposed dam site and continues up the valley within the proposed reservoir area. This Connecticut State Highway is now below the spillway crest elevation of 576.0 ft. mean sea level. This road was formerly a Town road in the Town of Thomaston, Connecticut. In 1955, it was acquired by the State of Connecticut by agreement with the Town of Thomaston. At that time, the road was straightened out and widened. The public records disclose that this highway is an ancient public road. In 1760, the records show that some of the monuments could not be located and, therefore, the road was re-surveyed. This road will interfere with construction of the proposed dam and will be subjected to inundation by reason of the operation and maintenance of the Northfield Brook Dam and Reservoir Project. It is an important highway; therefore its

relocation will be required for an approximate length of 2.0 miles. The ownership, jurisdiction and control of said highway is in the State of Connecticut State Highway Department. It is the opinion of the undersigned that the State of Connecticut has a compensable interest in said State Highway Route No. 854 and is entitled to the reasonable cost of necessary relocation, rearrangement and/or alteration.

5. Town of Litchfield Road: There is one road of the Town of Litchfield, namely, Knife Shop Road which will be affected by the Northfield Brook Dam and Reservoir Project. This road is located in the upper reaches of the reservoir area and will be subjected to inundation as a result of the operation and maintenance of the Northfield Brook Dam and Reservoir Project. The Town of Litchfield records disclose that this highway was laid out and surveyed on January 14, 1745, by the Town. Since that date, it has always been operated and maintained by the Town of Litchfield as a public highway under its control and jurisdiction. It is the opinion of the undersigned that the Town of Litchfield has a compensable interest therein and is entitled to the reasonable cost of necessary relocation, rearrangement and/or alteration.

II UTILITIES.

6. The Southern New England Telephone Company maintains and operates exchange lines which cross the proposed Northfield Brook Dam and Reservoir Project. These lines are located on State Highway Route No. 854, the Litchfield-Northfield Road within the project. The poles are jointly owned with The Hartford Electric Light Company and are under the custody of the Light Company. These lines will be affected by the construction, maintenance and operation of the project by the Government. Therefore, relocation, rearrangement or alteration will be required. The highway locations are occupied by virtue of a statutory authority and its charter. It is my opinion that the Southern New England Telephone Company has a compensable interest therein and is entitled to the reasonable cost of any necessary relocation, rearrangement or alteration.

This Company was incorporated by Special Act of the Legislature approved April 18, 1882, Special Laws of Connecticut, Volume IX, Page 605. Section 1 thereof provides that the Company shall be capable in law to ". . . purchase, sell, grant or receive all kinds of property . . . and generally to do and execute all acts, manners and things as such corporation shall deem

necessary and convenient to carry out the powers and privileges granted" By Section 16-228 of the Connecticut General Statutes (1958) the Company was authorized to construct and maintain telephone lines upon any highway or cross any waters in this State by the erection and maintaining of the necessary fixtures including posts, piers or abutments for sustaining wires.

7. The Hartford Electric Light Company: The Company maintains and operates electric distribution lines and transmission lines within the proposed Northfield Brook Dam and Reservoir Project area. The distribution lines are located on State Highway Route No. 854, the Northfield-Litchfield Road. The transmission line crosses through the project on private properties. The locations are occupied by virtue of statutory authority, by charter and by real estate interest. The distribution lines will be affected by the construction, operation and maintenance of the project and relocation, rearrangement or alteration will be required. The poles are jointly owned with the Telephone Company with custody being in the Light Company. The transmission line appears to be high enough so that no relocation or removal will be required for project purposes. It is the opinion of the undersigned that The Hartford Electric Light Company has a valid compensable interest in these distribution and transmission lines.

The Hartford Electric Light Company was chartered by the State of Connecticut by Special Act of the Legislature, January 18, 1881. It merged with the Connecticut Power Company on January 1, 1958. Previously, the Connecticut Power Company had merged with The Thomaston Electric Light Company on June 30, 1936. Under its charter, The Hartford Electric Light Company is empowered and authorized to manufacture, and sell electric light and electricity. It is also authorized to buy, own, sell and deal in all patent rights and other property necessary or convenient for the purpose of said corporation.

Under General Statutes of Connecticut Revision of 1958, Section 16-234, the Company cannot "exercise any powers which may have been conferred on it to change the location of or to erect or place wires, conductors, fixtures, etc., of any kind over, on or under any highway or public ground without the consent of the adjoining proprietors, or, if such Company or association is unable to obtain such consent without the approval of the Commission, it shall be given only after a hearing upon notice to such proprietors." Section 16-235 provides that the Selectmen of any Towns shall have full direction and control over the

placing, erection and maintenance of any such wires, conductors, fixtures, etc., including the relocation, or removal of the same. The right of the Company to occupy public ways within the Towns of Thomaston and Litchfield derives from Special Act No. 155 of the State of Connecticut of the General Session 1889 which incorporated The Thomaston Electric Light Company.

It is understood that a new proposed additional transmission line is being considered by The Hartford Electric Light Company. It would be located within the project which is north of the Northfield Brook Dam site. However, company officials indicate that it will be built high enough to avoid interference with the Government's Flood Control Project. This Company is in the process of acquiring these pole line easement rights. It is my opinion that The Hartford Electric Light Company will have a valid compensable interest in this new proposed transmission line when it has acquired the necessary real estate interests from prior property owners.

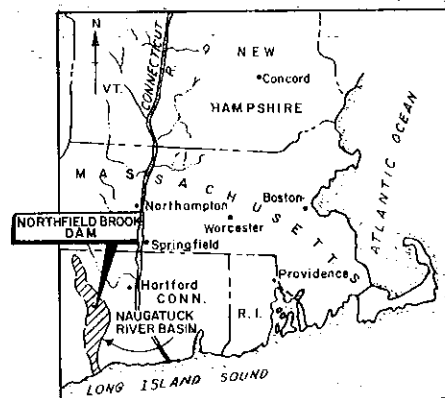
8. The Connecticut Light and Power Company: The Connecticut Light and Power Company maintains and operates a transmission line within the proposed Northfield Brook Dam and Reservoir Project area. This transmission line crosses through the reservoir on private properties. The locations are occupied by virtue of statutory authority, charter and acquisition of real estate interests. This transmission line will be affected by the construction, operation and maintenance of the project and relocation, rearrangement or alteration will be required. It is the opinion of the undersigned that the Connecticut Light and Power Company has a valid compensable interest in this transmission line.

The Connecticut Light and Power Company was chartered by the State of Connecticut by special act of the Legislature June 22, 1905. Under its charter, the Company is empowered and authorized to produce or generate electricity and sell same to others and to take and hold any estate, real or personal, for the purposes of carrying out the other powers granted.

16 January 1962


MORRIS S. PHILLIPS
Attorney, Real Estate Division



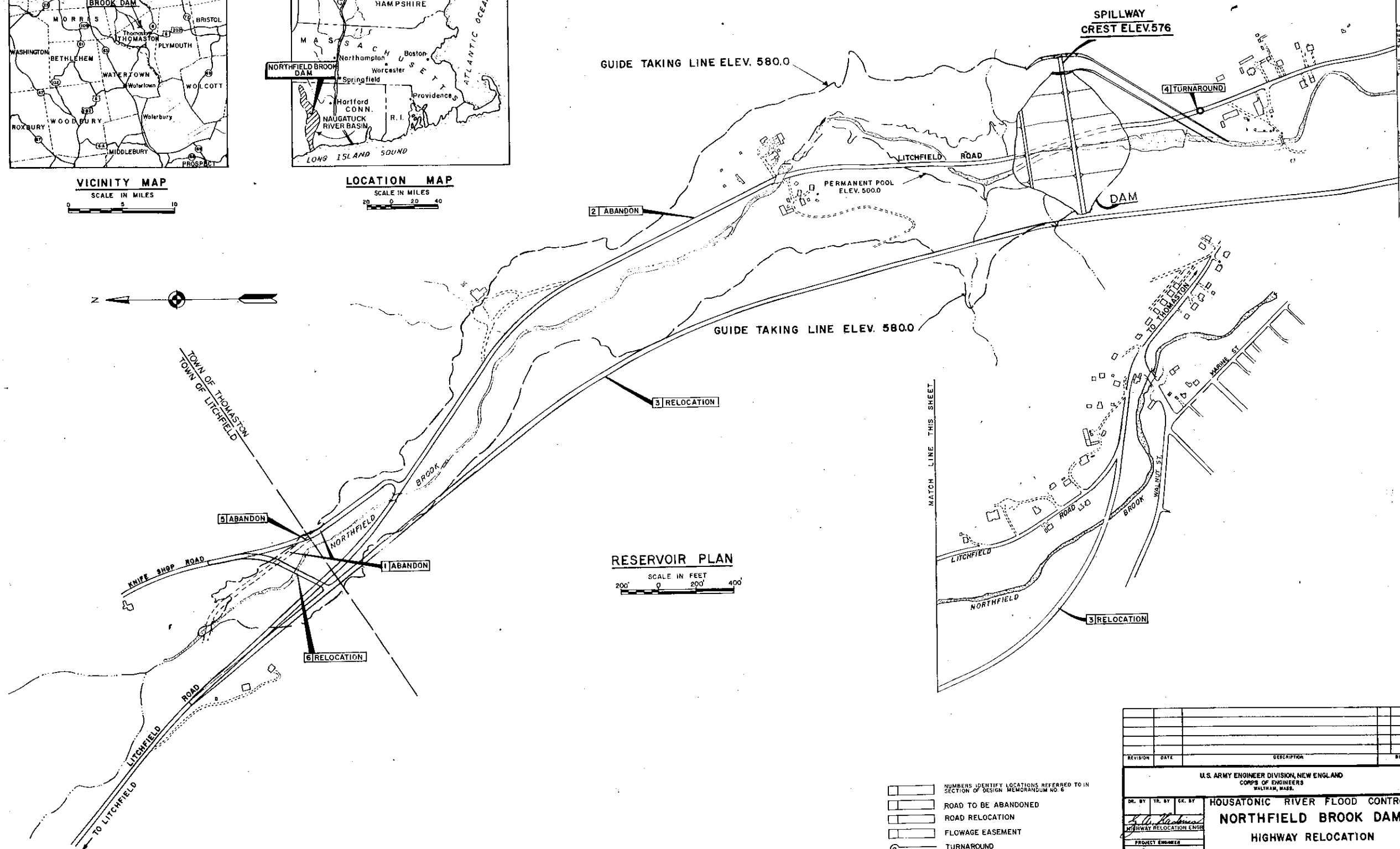


VICINITY MAP

LOCATION MAP

0 5 10

SCALE IN MILES
20 0 20 40

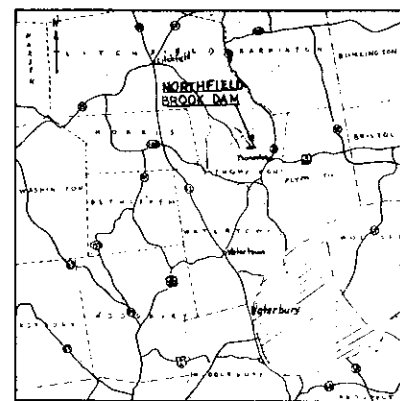


RESERVOIR PLAN

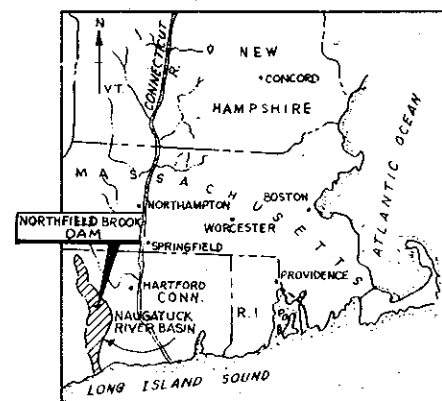
SCALE IN FEET
200' 0 200' 400'

- NUMBERS IDENTIFY LOCATIONS REFERRED TO IN
SECTION OF DESIGN MEMORANDUM NO. 6
- ROAD TO BE ABANDONED
- ROAD RELOCATION
- FLOWAGE EASEMENT
- TURNAROUND

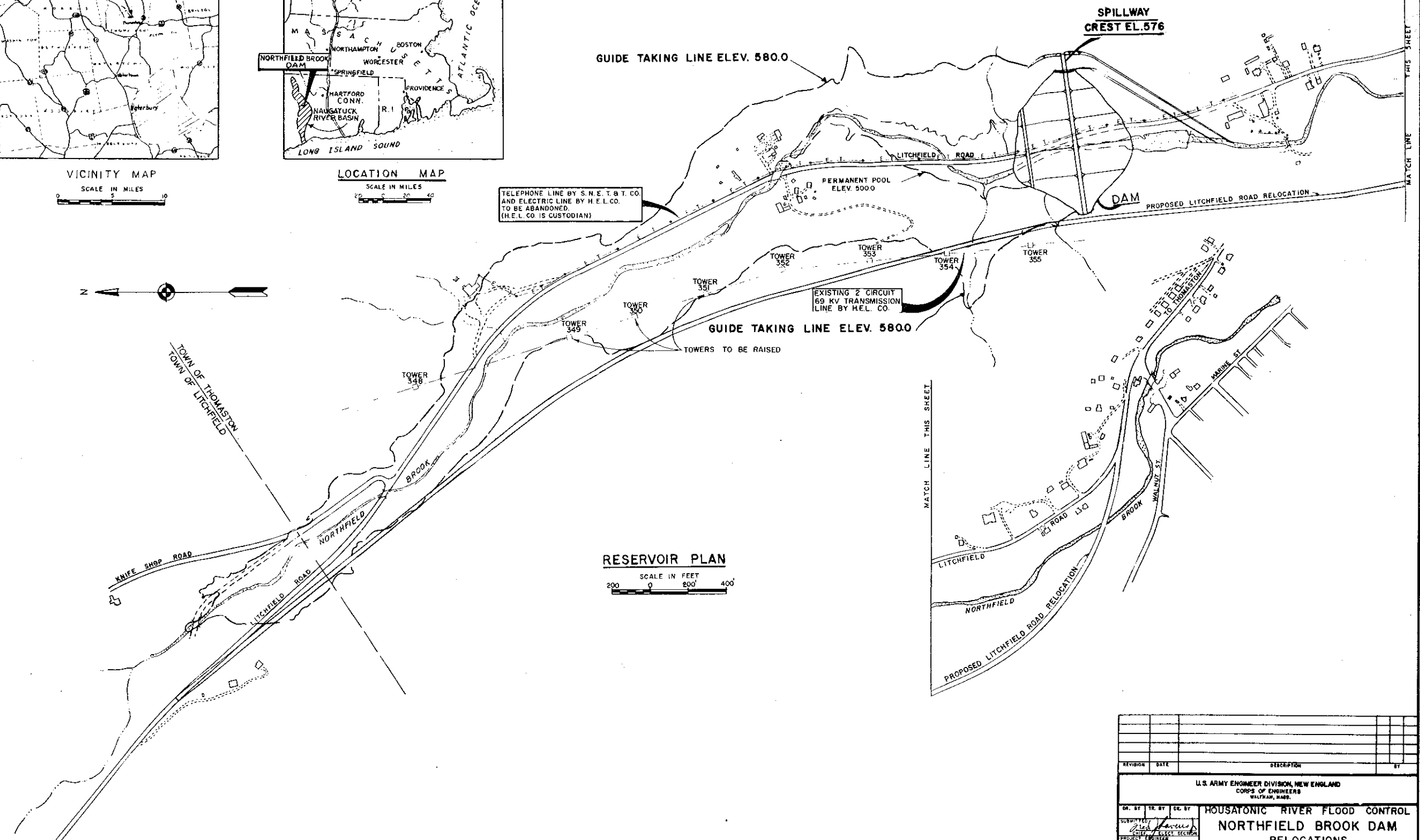
REVISION	DATE	DESCRIPTION			BY
<p align="center">U.S. ARMY ENGINEER DIVISION, NEW ENGLAND CORPS OF ENGINEERS WALHAM, MASS.</p>					
DR. BY	TR. BY	CR. BY	<p align="center">HOUSATONIC RIVER FLOOD CONTROL NORTHFIELD BROOK DAM HIGHWAY RELOCATION</p>		
<p><i>J. W. Robinson</i> HOUSATONIC RIVER FLOOD CONTROL</p>			<p align="center">NORTHFIELD BROOK DAM HIGHWAY RELOCATION</p>		
<p><i>W. J. ...</i> PROJECT ENGINEER</p>			<p align="center">NORTHFIELD BROOK CONNECTICUT</p>		
<p>DRAWN BY <i>J. W. Robinson</i> CPL PLANS & P.T.'S BRANCH</p>			<p>APPROVED <i>John W. Lohr</i> CHIEF ENGINEER DIX</p>		
			<p>DATE APRIL 1962</p>		
			<p>SCALE AS SHOWN</p>		
			<p>DRAWING NUMBER HC-1-1645</p>		
			<p>SHEET 1</p>		



VICINITY MAP

SCALE IN MILES
0 5 10

LOCATION MAP

SCALE IN MILES
0 5 10

RESERVOIR PLAN

SCALE IN FEET
200 0 200 400

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND CORPS OF ENGINEERS WALTON, MASS.			
DR. BY	SR. BY	DE. BY	DATE
SUBMITTED BY <i>[Signature]</i>			
PROJECT ENGINEER <i>[Signature]</i>			
APPROVAL RECOMMENDED <i>[Signature]</i>			
APPROVED <i>[Signature]</i>			
DATE APRIL 1962			
SCALE AS SHOWN			
DRAWING NUMBER HC-1-1646			
SHEET 1			